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EXAMINER				
LAI, ANDREW				
ART UNIT		PAPER NUMBER		
2473				
NOTIFICATION DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentprocurement@perkinscoie.com

### Office Action Summary

**Application No.**

10/776,489

**Applicant(s)**

RAGHAV ET AL.

**Examiner**

ANDREW LAI

**Art Unit**

2473

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/4/2010.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Examiner's Notes***

Applicant filed amendments to the claims on 1/4/2010 with remarks.

Examiner fully reviewed the amendments and associated remarks and concludes that, if certain further amendments could be made to overcome the 112 rejections which will be presented below, the case would be in condition for allowance. Examiner attempted to discuss with the applicant's representative attorney to propose an Examiner's Amendments. However, the attorney appears to be unavailable within the time constraint for further Office Action for this case. Therefore, this Office Action is issued as a Final Rejection based on the various 112 issues that could have been resolved with an Examiner's Amendment should the attorney in charge of this case be available.

In this Office Action, therefore, above said 112 issues will be discussed first, which forms the ground of the Final-Rejection. Also, in the discussion, Examiner will make certain recommendations for further amending the claims to overcome the rejection. Then, Examiner will make objections to the various claims regarding the various formality issues, with again recommendations for further amending the claims to clear the formality issues. And finally, Examiner will present a full list of the claims, in view of the 112 rejections and claim objections, which would have been the proposed Examiner's Amendment said above for making the case in condition of allowance.

On the part of the Applicant, it is recommended that careful consideration be given to Examiner's 112 rejections and claim objections below and appropriate amendments, either taking Examiner's recommendation or submitting Applicant's further amendments to the same effect of Examiner's recommendations, be made. Upon appropriate and satisfactory further Amendments, Examiner will consider allowing this case, although the ground of allowance that would be issued will be different from the reasons applicant made in above said remarks.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 20-24, 26-30 and 32-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Regarding claims 20 – 24**, the Independent claim 20 explicitly recites, on the one hand, in the preamble: *"each telephony device being a time division multiplexing ("TDM") telephone and not being session initiation protocol ("SIP") enabled"* (emphasis added). On the other hand, the claim requires in the body: *"each client system for*

controlling a telephony device using SIP" (emphasis added), and further "controlling the telephony device, via the logical representation by sending SIP messages ... and via the physical representation by sending SIP messages ..." (emphasis added). The body of the claim also requires "a private branch exchange [PBX – Examiner notes] that supports a computer telephony integration ("CTI") protocol and a front end that converts messages between SIP and the CTI protocol" (emphasis added).

It is clear that the body of the claim inherently requires the *TDM phone* be *SIG-enabled* (otherwise it is impossible for the *TDM phone* to be controlled by a *client system using SIP* by receiving the *SIP messages* therefrom. It should be noted also that Dependent claims 23 and 24 all provided details of *SIP messaging* between the *TDM telephone* and the *client system*, which further show that the *TDM telephone* must be SIP-enabled.

In other words, it is entirely unclear how the directly contradictory requirements in the claims can coexist, which contradiction renders the claim indefinite. Therefore, the claims are rejected on above indefiniteness ground.

However, Examiner would like to recommend that Applicant delete in the preamble the recitation of "*and not being session initiation protocol ("SIP") enabled*" to eliminate the contradiction.

Additionally, Dependent claim 21 recites "*wherein a telephony device may be a SIP-enabled telephone or a TDM telephone ...*" (emphasis added). The term "may be" renders the claim further indefinite. In this regards and on top of above

recommendation, Examiner recommend that the term "*may be*" be changed to "*comprising*".

**Regarding claims 26-30 and 32**, Independent claim 26 recites "... *the device control channel being through the private branch exchange that supports ... converts messages between the session initiation protocol ("SIP") and ...*" (emphasis added). There are insufficient antecedent bases for "*the private branch exchange*" and "*the session initiation protocol ("SIP")*".

Additionally, claim 27 has the same "*may be*" issue as that of claim 21 discussed above and Examiner recommend the same change of "*may be*" to "*comprising*" made for claim 21 above.

**Regarding claims 33 – 39**, the Independent claim 33 recites: "*the device control channel for converting between session initiation protocol ("SIP") messages and computer telephony integration ("CTI") messages; and ... the call control channel for converting between SIP messages and CTI messages ...*" (emphasis added). It is unclear how a "*channel*" *per se*, being merely a message propagation path, can "*convert*" message between different protocols. Such ambiguity of the claim renders claim 33, together with its Dependent claims, indefinite and thus said claims are rejected on the ground of said indefiniteness.

However, in light of the Specification as well as the amended limitations in claims 20 and 26, parallel in terms of functionality to claim 33, Examiner recommend further amend claim 33 to recite "*the device control channel being through a front end device*"

*for converting between ...; and ... the call control channel being through a front end device for converting between ..."* (emphasis added).

Additionally, claim 34 has the same "may be" issue as that of claims 21 and 27 discussed above and Examiner recommend the same change of "may be" to "comprising" made for claims 21 and 27 above.

### ***Claim Objections***

Examiner's note: under this sub-title, Examiner presents the various formality issues in the language of the claims that in fact also contribute to certain degree of ambiguity to the claimed limitation, though to lesser degrees of the problems discussed so far hereinabove. It is important to understand that many of those formality issues come into question providing Applicant acknowledges the above indefiniteness issues and agrees to correct such as recommended or in other ways to the same effect of the recommendations above.

3. Claims 26-30 and 32 are objected to because of the following informalities: "*The computer-readable storage medium*". Appropriate correction is required.

It is acknowledged that, the Applicant, in responding to previous 101 rejections by the Examiner, stated in the above mentioned remarks (Remarks page 12 third paragraph), "Claims 26-32 now recite a 'computer-readable storage medium' that includes a memory and a disk, but does not include a signal. Thus a storage medium is a physical device, which is a machine or manufacture under Section 101".

However, for compact prosecution practice, Examiner would strongly recommend that Applicant amend the claims by reciting “computer-readable non-transitory medium” so that, when the case is allowed, should that become true, the allowance would be compact and clear without the need of having the reasons of allowance to state, in record, what the Applicant stated above.

***Proposed Examiner's Amendment***

4. In view of above discussed rejections and objections, as well as in view of the various minor wording issues in the claims, Examiner would like to propose an Examiner's Amendment below in an effort to lay the ground for a Notice of Allowability, assuming Applicant would consider the amendment.

In the following proposed claims, which would have been presented in above mentioned Examiner's attempt if Applicant's representative had been available, the stroke-through words are those recommended to be deleted and the underlined words are those recommended to be added. Applicant is respectfully invited to carefully review the proposed amendments, which, if agreed upon by the Applicant, would result in Notice of Allowability issued in subsequent Office Action, if any; or Applicant may submit a different amendment, which however must clearly and appropriately address all of the rejections and objections raised above and to the same effect as what Examiner proposed below:

20. (Currently Amended) A method of controlling and monitoring via client systems calls placed through telephony devices, each telephony device being a time division multiplexing (“TDM”) telephone ~~and not being session initiation protocol (“SIP”) enabled~~ each telephony device and having a unique identifier, the method comprising:

Art Unit: 2473

providing a plurality of the client systems and the telephony devices within a communication network, each of the client systems having a unique identifier and hardware and software components that provide a user interface for controlling a telephony device, each a client system for controlling a telephony device using SIP, the plurality of the client systems being communicatively connected in a group;

for each of the telephony devices, providing a logical representation and a physical representation for the telephony device, the logical representation for a the telephony device representing a communication link of the telephony device, the physical representation of a the telephony device representing physical attributes of the telephony device;

determining relationships between the client systems and the telephony devices based on their unique identifiers, a relationship indicating that a the client system is to control a the telephony device via the logical representation and the physical representation of the telephony device;

for each relationship between a client system and a telephony device, establishing a device control channel between the physical representation of the telephony device and the client system, the device control channel being through a private branch exchange that supports a computer telephony integration ("CTI") protocol and a front end that converts messages between the SIP and the CTI protocol; and

establishing a call control channel between the logical representation of the telephony device and the client system, the call control channel being through the private branch exchange that supports the CTI protocol and the front end that converts messages between the SIP and the CTI protocol, the call control channel being different from the device control channel; and

under control of the user interface of each the client system that has a the relationship with a the telephony device;

controlling the telephony device, via the logical representation by sending SIP messages using the call control channel and via the physical representation by sending SIP messages using the device control channel to place calls via the telephony device; and

monitoring the telephony device via the logical representation using the call control channel and via the physical representation using the device control channel to receive calls via the telephony device.

21. (Currently Amended) The method of claim 20 wherein a the telephony device may be comprising a SIP-enabled telephone or a TDM telephone and including for each the telephony device,

when the telephony device is a the TDM device telephone,

associating the logical representation and the physical representation of the telephony device with a phone number of the telephony device; and

when the telephony device is a the SIP-enabled device telephone,

associating the logical representation of the telephony device with an electronic mail address; and associating the physical representation of the telephony device with a fully qualified domain name.

22. (Currently Presented) The method of claim 20 wherein the determining of the relationships between the telephony devices and the client systems includes searching a network directory for a listing of the telephony devices within the communication network.

23. (Currently Presented) The method of claim 20 wherein the establishing a the device control channel between a the client system and a the telephony device comprises:

sending a SIP INVITE message from the client system to the physical representation of the telephony device;

receiving a SIP OK response sent from the physical representation of the telephony device to the client system;

sending a SIP acknowledgement (ACK) message from the client system to the physical representation of the telephony device in response to receiving the SIP OK response; and

sending a SIP SUBSCRIBE message from the client system to the physical representation of the telephony device;

receiving a SIP OK response sent from the physical representation of the telephony device to the client system; and

receiving a SIP NOTIFY message from the physical representation of the telephony device to the client system to notify the client device of changes in the status of a physical attribute of the telephony device.

24. (Currently Presented) The method of claim 20 wherein the establishing a the call control channel between a the client system and a the telephony device comprises:

sending a SIP OPTION message from the client system to the logical representation of the telephony device;

receiving a SIP OK response sent from the logical representation of the telephony device to the client system;

sending a SIP SUBSCRIBE message from the client system to the logical representation of the telephony device;

receiving a SIP OK response sent from the logical representation of the telephony device to the client system; and

receiving a SIP NOTIFY message from the logical representation of the telephony device to the client system to notify the client device of changes in the status of communication link of the telephony device.

25. (Canceled)

26. (Currently Amended) A computer-readable storage non-transitory medium containing instructions for each of a plurality of client systems, a client system for controlling and monitoring calls placed through a first telephony device of a communication network, the client system having hardware and software components that provide a user interface for controlling the first telephony device, the first telephony device being a time division multiplexing ("TDM") telephone, the first telephony device having a logical representation and a physical representation for the

Art Unit: 2473

first telephony device, the logical representation for the first telephony device representing a communication link of the first telephony device, the physical representation of the first telephony device representing physical attributes of the first telephony device, by a method comprising:

determining a relationship between the client system and the first telephony device;

establishing a device control channel between the physical representation of the first telephony device and the client system, the device control channel being through the a private branch exchange that supports a computer telephony integration ("CTI") protocol and a front end that converts messages between ~~the~~ a session initiation protocol ("SIP") and the CTI protocol;

establishing a call control channel between the logical representation of the first telephony device and the client system, the call control channel being through the private branch exchange that supports the CTI protocol and the front end that converts messages between the SIP and the CTI protocol;

under control of the user interface of the client system, controlling the first telephony device, via the logical representation by sending SIP messages using the call control channel and via the physical representation by sending SIP messages using the device control channel to place a call; and

monitoring the first telephony device via the logical representation using the call control channel and via the physical representation using the device control channel.

27. (Currently Amended) The computer-readable ~~storage~~ non-transitory medium of claim 26 wherein a the telephony device ~~may be comprising~~ a SIP-enabled telephone or a the TDM telephone and including

when the first telephony device is a the TDM telephone, associating the logical representation and the physical representation of the first telephony device with a phone number of the telephony device; and

when the first telephony device is a the SIP-enabled telephone,

associating the logical representation of the first telephony device with an electronic mail address; and

associating the physical representation of the first telephony device with a fully qualified domain name.

28. (Currently Amended) The computer-readable ~~storage~~ non-transitory medium of claim 27 wherein the determining of the relationships between a the telephony device and the client system includes searching a network directory for a listing of the telephony devices within the communication network.

29. (Currently Amended) The computer-readable ~~storage~~ non-transitory medium of claim 26 wherein the establishing a the device control channel between the client system and the first telephony device comprises:

sending a SIP INVITE message from the client system to the physical representation of the first telephony device;

receiving a SIP OK response sent from the physical representation of the first telephony device to the client system;

sending a SIP acknowledgement (ACK) message from the client system to the physical representation of the first telephony device in response to receiving the SIP OK response; and

sending a SIP SUBSCRIBE message from the client system to the physical representation of the first telephony device;

receiving a SIP OK response sent from the physical representation of the first telephony device to the client system; and

receiving a SIP NOTIFY message from the physical representation of the first telephony device to the client system to notify the client device of changes in the status of a physical attribute of the telephony device.

30. (Currently Amended) The computer-readable storage non-transitory medium of claim 29 wherein the establishing a the call control channel between the client system and the first telephony device comprises:

sending a SIP OPTION message from the client system to the logical representation of the first telephony device;

receiving a SIP OK response sent from the logical representation of the first telephony device to the client system;

sending a SIP SUBSCRIBE message from the client system to the logical representation of the first telephony device;

receiving a SIP OK response sent from the logical representation of the first telephony device to the client system; and

receiving a SIP NOTIFY message from the logical representation of the first telephony device to the client system to notify the client device of changes in the status of communication link of the first telephony device.

31. (Canceled)

32. (Currently Amended) The computer-readable storage non-transitory medium of claim 26 wherein the establishing of the device control channel includes establishing a first SIP session and establishing of the call control channel includes establishing a second SIP session that is different from the first SIP session.

33. (Currently Amended) A communication network comprising:

a plurality of telephony devices, each telephony device being a time division multiplexing ("TDM") telephone, (~~"TDM"~~); each telephony device having a logical representation and a physical representation for the telephony device, the logical representation for a the telephony device representing a communication link of the telephony device, the physical representation of a the telephony device representing physical attributes of the telephony device; and

a plurality of client systems, each client system having hardware and software components that provide a user interface for controlling ~~the first a first~~ telephony device of the plurality of the

telephony devices, each client system for controlling and monitoring calls placed through the first telephony device by performing steps comprising:

determining a relationships between the client system and a the first telephony device;

establishing a device control channel between the physical representation of the first telephony device and the client system, the device control channel being through a front end device for converting between session initiation protocol ("SIP") messages and computer telephony integration ("CTI") messages; and

establishing a call control channel between the logical representation of the first telephony device and the client system, the call control channel being through the front end device for converting between the SIP messages and the CTI messages; and

controlling the first telephony device via the logical representation using the call control channel and via the physical representation using the device control channel to place a call, the controlling being based on input of a user through the user interface of the client system; and

monitoring the first telephony device via the logical representation using the call control channel and via the physical representation using the device control channel.

34. (Currently Presented) The communication network of claim 33 wherein a the first telephony device may be comprising a SIP-enabled telephone or a the TDM telephone and wherein

when the first telephony device is a the TDM telephone, the logical representation and the physical representation of the first telephony device is associated with a phone number of the telephony device; and

when the first telephony device is a the SIP-enabled telephone,

the logical representation of the first telephony device is associated with an electronic mail address; and

the physical representation of the first telephony device is associated with a fully qualified domain name.

35. (Currently Presented) The communication network of claim 33 wherein the determining of the relationship between a the first telephony device and the client system includes searching a network directory for a listing of the telephony devices within the communication network.

36. (Currently Presented) The communication network of claim 33 wherein the establishing a the device control channel between the client system and the first telephony device comprises:

sending a SIP INVITE message from the client system to the physical representation of the first telephony device;

receiving a SIP OK response sent from the physical representation of the first telephony device to the client system;

sending a SIP acknowledgement (ACK) message from the client system to the physical representation of the first telephony device in response to receiving the SIP OK response; and

Art Unit: 2473

sending a SIP SUBSCRIBE message from the client system to the physical representation of the first telephony device;

receiving a SIP OK response sent from the physical representation of the first telephony device to the client system; and

receiving a SIP NOTIFY message from the physical representation of the first telephony device to the client system to notify the client device of changes in the status of a physical attribute of the telephony device.

37. (Previously Presented) The communication network of claim 33 wherein the establishing a the call control channel between the client system and the first telephony device comprises:

sending a SIP OPTION message from the client system to the logical representation of the first telephony device;

receiving a SIP OK response sent from the logical representation of the first telephony device to the client system;

sending a SIP SUBSCRIBE message from the client system to the logical representation of the first telephony device;

receiving a SIP OK response sent from the logical representation of the first telephony device to the client system; and

receiving a SIP NOTIFY message from the logical representation of the first telephony device to the client system to notify the client device of changes in the status of communication link of the first telephony device.

38. (Currently Presented) The communication network of claim 33 including a front end SIP unit in communication with the first telephony device and the client system adapted to convert SIP data to computer-telephony-integration ("CTI") data and convert the CTI data to the SIP data when the first telephony device is a time division multiplexing ("TDM") device.

39. (Previously Presented) The communication network of claim 33 wherein the first telephony device is a SIP-enabled PBX phone.

### ***Response to Arguments***

5. Applicant's arguments filed 1/4/2010 have been fully considered but they are not persuasive.

Applicant's arguments essentially repeated the arguments made in previous replies with no substantial new reasoning, which previous arguments have been

addressed in Examiner's previous Response to Arguments and thus will not be addressed again herein.

***Provisionally Allowable Subject Matter***

6. Based on the Amendments made by the Applicant, and more importantly assuming the further proposed Examiner's Amendment above is accepted, or, Applicant presents further amendments along the same line and to the same effect of the above proposed Examiner's amendment to overcome the rejections and objections made in this Office Action, instant Application may be considered as containing allowable subject matter for the following reasons:

It is found that the Independent claims in instant Application contain the following limitations which in combination appear to be unique and conventional techniques in the art appear to have failed to anticipate or render obvious the combination of limitations underlined below (and again, it should be emphasized that this provisional indication of allowable subject matter is entirely based on the assumption that Applicant overcomes above made rejections and objections by agreeing to the proposed Examiner's Amendments or by presenting different further amendments to the same effect as of the proposed Examiner's Amendments above) using Claim 20 language as an example:

... each telephony device being a time division multiplexing ("TDM") telephone ... for each of the telephony devices, providing a logical representation and a physical representation ... a client system is to control a telephony device via the logical representation and the physical representation ... device control channel being through a private branch exchange that supports a computer telephony integration ("CTI") protocol and a front end that converts messages between the SIP and the CTI protocol ... call control channel being through the private branch exchange that supports the CTI protocol and the front end that converts messages between the SIP and the CTI protocol ...

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW LAI whose telephone number is (571)272-9741. The examiner can normally be reached on M-F 7:30-5:00 EST, Off alternative Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Lai/  
Examiner, Art Unit 2473

/KWANG B. YAO/

Supervisory Patent Examiner, Art Unit 2473